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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,212	12/16/2004	Carl Christensen	PU020291	3542

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EXAMINER
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MATTIS, JASON E

ART UNIT	PAPER NUMBER
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2461

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10/30/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/518,212	<b>Applicant(s)</b> CHRISTENSEN ET AL.	
	<b>Examiner</b> JASON E. MATTIS	<b>Art Unit</b> 2461	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. This Office Action is in response to the Amendment filed 6/26/09. Claims 1-18 have been canceled. New claims 19-24 have been added. Claims 19-24 are currently pending in the application.

#### ***Claim Objections***

2. Claims 19-24 are objected to because of the following informalities:

Claim 19 contains a type whereby the phrase "of the inputs" is repeated twice on line 13. It is recommended that the repeated phrase be deleted.

Claims 20-24 are objected to since they depend on objected base claim 19.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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4. Claims 19, 22, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lydon et al. (U.S. Patent 6,680,939 B1) in view of Haq et al. (U.S. Patent US 6,885,635 B1).

**With respect to claim 19**, Lydon et al. discloses an expandable router for routing a signal from at least one input port to one or more output ports **(See the abstract, column 4 lines 48-65, and Figure 4 of Lydon et al. for reference to an expandable routing switch for routing signals between input ports and output ports)**. Lydon et al. also discloses at least X routing components, where X is an integer greater than two **(See column 4 lines 48-65 and Figure 4 of Lydon et al. for reference to the routing switch including for routers 50, 60, 70, and 80, which are routing components)**. Lydon et al. further discloses each of the routing components having first routing engines **(See column 5 lines 15-37 and Figure 5 of Lydon et al. for reference to each router 50, 60, 70, and 80 having routing engine components, as shown in the components of Figure 50)**. Lydon et al. also discloses each routing engine having M inputs and N outputs where M and N are integers both greater than one **(See column 4 lines 48-65, column 5 lines 15-37, and Figures 4 and 5 of Lydon et al. for reference to the routing engines each having 256 inputs 88 and 256 outputs)**. Lydon et al. further discloses each routing engine routing a signal from one of the M inputs to one or more of the N outputs **(See column 4 line 48 to column 5 line 14 of Lydon et al. for reference to an input signal received at any of the inputs being made available to any one of the outputs)**. Lydon et al. also discloses each first routing engine of the X routing components having its inputs coupled by links to

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inputs of others of the first routing engines of the X routing components (**See column 4 line 48 to column 5 line 14, column 5 lines 58-65, column 6 lines 27-43, and Figures 4 and 5 of Lydon et al. for reference to each router 50, 60, 70, and 80, having its inputs coupled by links to inputs of other router 50, 60, 70, and 80 via input expansion interfaces 130**). Lydon et al. further discloses that the coupling of the inputs of the routing engines affords the routing engines with a common set of XM inputs (**See column 4 lines 48-65 and Figure 4 of Lydon et al. for reference to the coupling of the components of the routers 50, 60, 70, and 80 resulting in an overall routing switch having 4 times 256, or 1024, inputs**). Lydon et al. does not specifically disclose each routing component including a second routing engine serving as a backup to the first routing engine in the same routing component. Lydon et al. also does not disclose each second routing engine of the X routing components having its inputs coupled by links to inputs of others of the second routing engines of the X routing components.

**With respect to claim 19**, Haq et al., in the field of communications, discloses router components including a first routing engine as well as an additional routing engine providing redundancy for the first routing engine (**See column 2 line 35 to column 3 line 65 and Figures 1 and 2 of Haq et al. for reference to a router including two routing engines and processing components with the second routing engine and processing component being redundant of the first routing engine**). Using router components including a first routing engine as well as an additional routing engine providing redundancy for the first routing engine has the

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advantage of protecting against failure of a routing engine by providing redundant routing engines as a backups that take over when a routing engine fails (**See column 2 line 35 to column 3 line 65 and Figures 1 and 2 of Haq et al. for reference to this advantage**).

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Haq et al., to combine using router components including a first routing engine as well as an additional routing engine providing redundancy for the first routing engine, as suggested by Haq et al., with the system and method of Lydon et al., with the motivation being to protect against failure of a routing engine by providing redundant routing engines as a backups that take over when a routing engine fails.

Although the combination of Lydon et al. and Haq et al. does not explicitly disclose each second routing engine having its inputs coupled by links to inputs of others of the second routing engines of the X routing components, it would have been obvious for and one of ordinary skill in the art at the time of the invention would have been motivated to connected inputs of backup routing engines in the same manner as the routing engines of Lydon et al. Connecting the backup routing engines in the same manner as the routing engines of Lydon et al. provides the advantage of allowing the backup routing engines to perform the all the functions of the routing engines of Lydon et al. in the event of a failure of the routing engines of Lydon et al.

**With respect to claim 22**, Lydon et al. discloses each routing component comprising first and second expansion modules (**See column 5 lines 58-65, column 6**

**lines 27-43, and Figure 5 of Lydon et al. for reference to each router 50, 60, 70, and 80 comprising multiple input expansion interfaces 130).**

**With respect to claim 23**, Lydon et al. discloses each expansion module comprising first and second memories capable of storing data received at the expansion module **(See column 5 lines 58-65, column 6 lines 27-43, and Figure 5 of Lydon et al. for reference to each expansion interface 130 including memories 138P and 138Q storing received data).**

**With respect to claim 24**, Lydon et al. disclose each expansion module including a controller for transferring data between the first and second memories **(See column 6 lines 44-57 and Figure 5 of Lydon et al. for reference to controller 96 controlling the interfacing of the memories of the expansion interfaces).**

### ***Claim Rejections - 35 USC § 103***

5. Claims 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lydon et al. in view of Haq et al. and in further view of Derventzis et al. (U.S. Publication US 2002/0159678 A1).

**With respect to claim 20**, the combination Lydon et al. and Haq et al. does not specifically disclose the links between inputs being bidirectional.

**With respect to claim 21**, the combination Lydon et al. and Haq et al. does not specifically disclose the links between inputs being pairs of unidirectional links.

**With respect to claims 20 and 21**, Derventzis et al., in the field of communications, discloses an using either bidirectional or pairs of unidirectional links to connect components of an expandable switch **(See the abstract, page 3 paragraph 39, page 4 paragraph 42, and Figures 3 and 4 of Derventzis et al. for reference to an expandable switch having switch module inputs connected by either bidirectional or pairs of unidirectional links)**. Using either bidirectional or pairs of unidirectional links has the advantage of allowing data to be communicated in both directions across the links.

It would have been obvious for one of ordinary skill in the art at the time of the invention, when presented with the work of Derventzis et al., to combine using either bidirectional or pairs of unidirectional links, as suggested by Derventzis et al., with the system and method of Lydon et al. and Haq et al., with the motivation being to allow data to be communicated in both directions across the links.

### ***Response to Arguments***

6. Applicant's arguments filed 6/26/09 have been fully considered but they are not persuasive.

Applicant argues that the combination of Lydon et al. and Haq et al. does not disclose routing packets from one input to multiple destinations. While this may be true, the argument is moot, since the current claim limitations do not require packets to be routed from one input to multiple destinations. The current claim language states “each



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routing engine routing a signal from one of the M inputs to one or more of the N outputs". Since the claim language is written in the alternative using the word "or" the claim language only requires that the routing engines either (1) route a signal from one of the M inputs to one of the N outputs, or (2) route a signal from one of the M inputs to multiple of the N outputs, but does not require both. As shown above, Lydon et al. discloses each routing engine routing a signal from one of the M inputs to one of the N outputs (See column 4 line 48 to column 5 line 14 of Lydon et al.). Thus Lydon et al. does disclose the current claim limitation.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON E. MATTIS whose telephone number is (571)272-3154. The examiner can normally be reached on M-F 8AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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